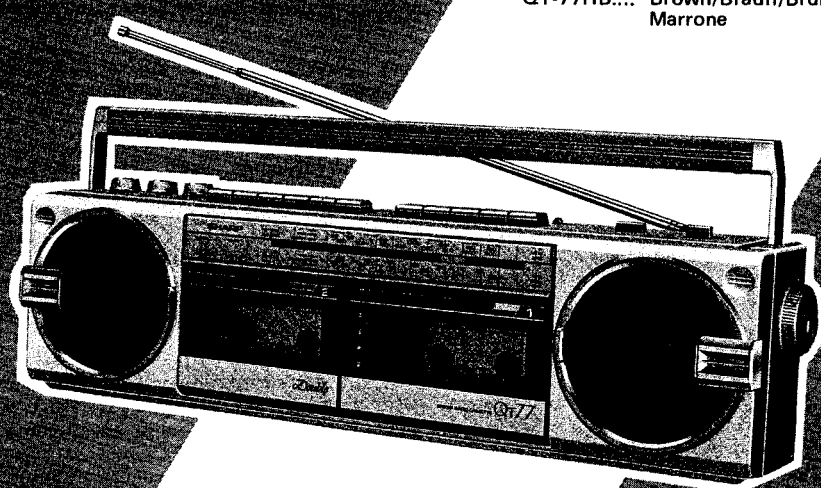
SHARP

SHAR-(2043)

STEREO RADIO CASSETTE RECORDER

QT-77HW/QT-77HR/QT-77HB

QT-77HW.... White/Weiß/Blanc/Vit/Bianco
QT-77HR.... Red/Rot/Rouge/Röd/Rosso
QT-77HB.... Brown/Braun/Brun/Brun/Marrone



TINSM0100AFZZ

OPERATION MANUAL

BESONDERE ANMERKUNGEN
REMARQUES SPÉCIALES
SÄRSKILDA ANTECKNINGAR
NOTE PARTICOLARI
SPECIAL NOTES

Anmerkung:
Audio-visuelles Material kann Urheberrechte umfassen, die ohne Genehmigung des Eigentümers diesser Urheberrechte nicht aufgenommen werden dürfen. Siehe die entsprechenden nationalen Gesetze.

Note:
Le matériel audio-visuel peut comporter des oeuvres faisant l'objet de droits d'auteur qui ne peuvent être enregistrées sans l'autorisation du possesseur du droit d'auteur. Veuillez vous référer aux réglementations nationales en vigueur.

Observera:
Audiovisuell material kan innehålla upphovsrättsarbete som inte skall mångfaldigas utan tillstånd av copyrightinnehavaren. Se den tillämpliga lagen i ditt land.

Nota:
Qualora il materiale audio-visivo fosse soggetto a copyright non può essere registrato senza l'autorizzazione del possessore del copyright. Attenersi alle leggi in vigore sul territorio nazionale.

Note:
Audio-visual material may consist of copyrighted works which must not be recorded without the authority of the owner of the copyright. Please refer to relevant law in your country.

Der Apparat stimmt mit den Bedingungen der EG-Richtlinien 76/889/EWG überein.

Cet appareil répond aux spécifications de la directive CCE 76/889/CCE.

Quest'apparecchio è stato prodotto in conformità alle direttive CEE 76/889/CEE.

Dit apparaat voldoet aan de vereisten van EEG-reglementen 76/889/EEG.

Apparatet opfylder kravene i EF direktivet 76/889/EF.

This apparatus complies with requirements of BS 800 and EEC directive 76/889/EEC.

Um Beschädigung beim Transport zu verhindern, verpackt man das Gerät wie auf der Lasche des Kartons dargestellt.

Afin d'eviter d'endommager ce produit, pendant le transport, le remettre dans son emballage de la façon indiquée sur le rabat de la boîte d'emballage.

För att skydda produkten för skador under dess transport, skall du återpacka den i packlådan enligt illustrationen på packlådans flik.

Per evitare che questo prodotto subisca dei danni durante il transporto, imballarlo nel modo illustrato sul coperchio dell'imballaggio stesso.

In order to protect this product from damage during transportation, repack it as illustrated on the flap of the packing case.

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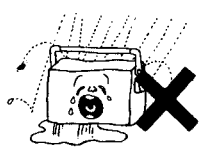
PRECAUTIONS

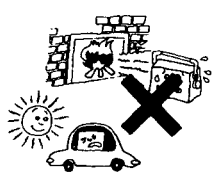
Do not use this unit with AC mains voltages other than those specified, as this may result in damage, fire, etc. SHARP may NOT be held responsible for damage resulting from use of this unit with unspecified voltages.

Be sure to hold the AC supply plug – NOT THE LEAD – when removing this plug from the AC outlet. Removing the plug by pulling the lead may result in damaged or broken connections.

Do not expose the unit to rain or moisture, as this will result in damage to internal circuitry.

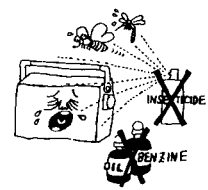


Do not expose the unit to temperatures higher than 60°C (140°F). This includes leaving the unit inside closed vehicles, placing it in direct sunlight or in the vicinity of heaters, etc.



Do not locate or store the unit for extended periods in places with high humidity or high concentrations of dust.

Do not apply petroleum, any organic solvents, or insecticides to the cabinet surface, as this may result in cracking or other surface damage.



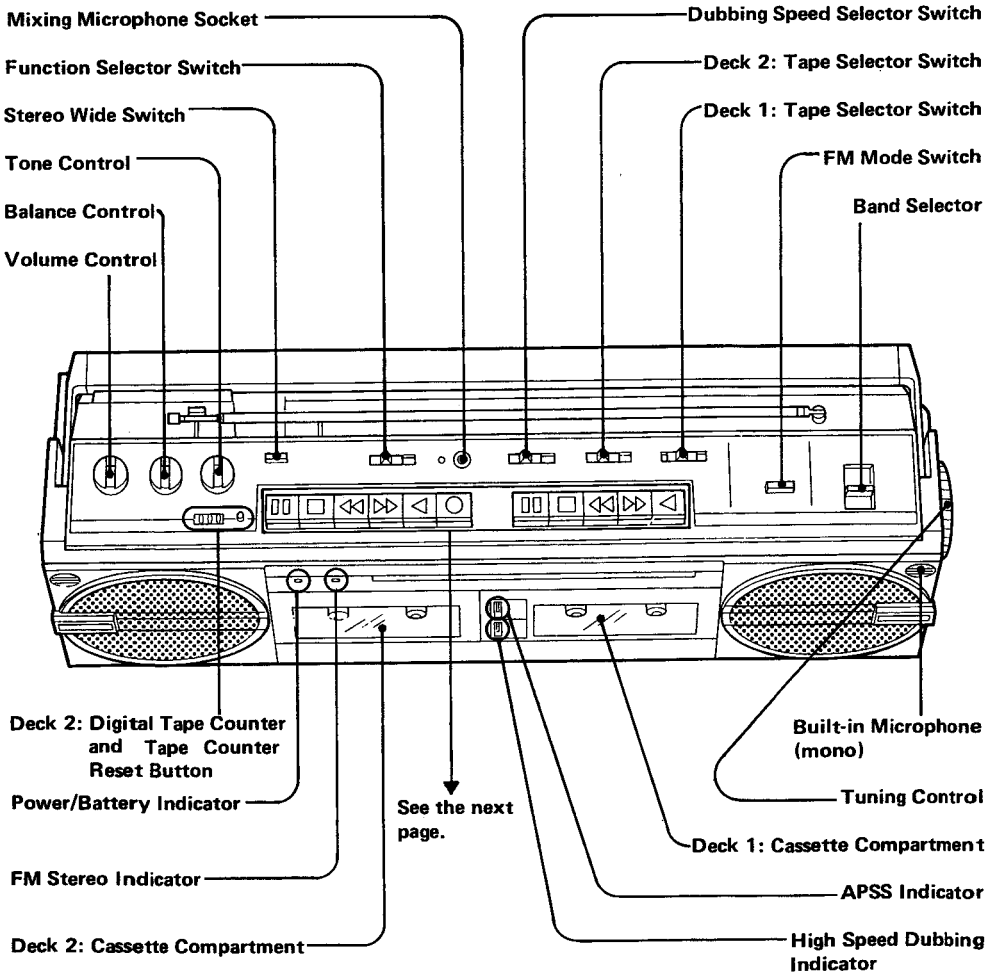
Do not apply oil to any part of the unit.

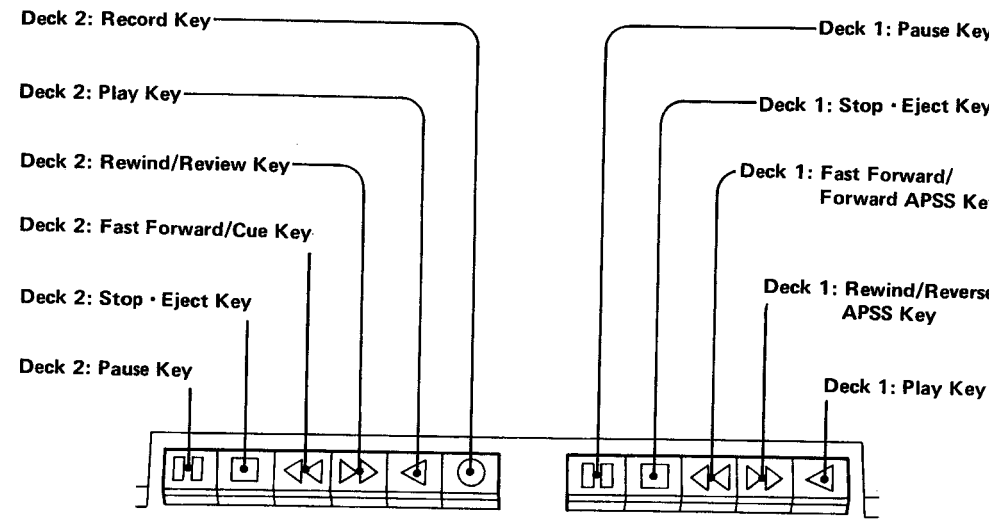
Remove the AC supply lead before servicing or cleaning heads, rollers, etc. Do not remove the unit's cover, as this may result in electric shock. Refer all servicing and repairs to your local SHARP dealer.

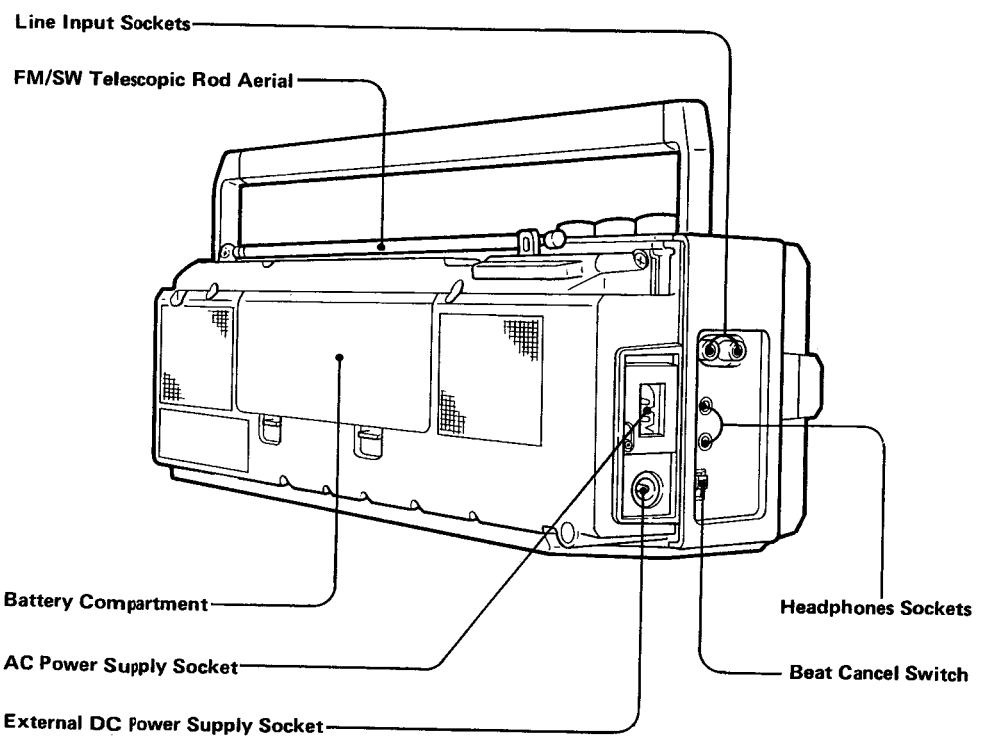
NOTE:

When the FUNCTION selector switch is set at TAPE/ ⏻ position, the unit is on stand-by, which means that mains voltage is still present inside the unit. Accordingly, be sure to pull the mains plug out of the wall outlet before making any internal examination or repairs.

NAMES OF CONTROLS

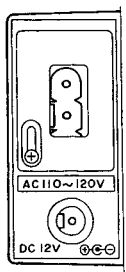



Deck 2: Record Key
Deck 2: Play Key
Deck 2: Rewind/Review Key
Deck 2: Fast Forward/Cue Key
Deck 2: Stop • Eject Key
Deck 2: Pause Key
Deck 1: Pause Key
Deck 1: Stop • Eject Key
Deck 1: Fast Forward/
Forward APSS Key
Deck 1: Rewind/Reverse
APSS Key
Deck 1: Play Key

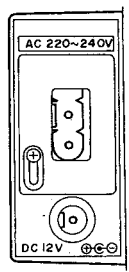

Line Input Sockets
FM/SW Telescopic Rod Aerial
Battery Compartment
AC Power Supply Socket
External DC Power Supply Socket
Headphones Sockets
Beat Cancel Switch

POWER SOURCE

OPERATION FROM AC POWER SUPPLY



AC 110–120V

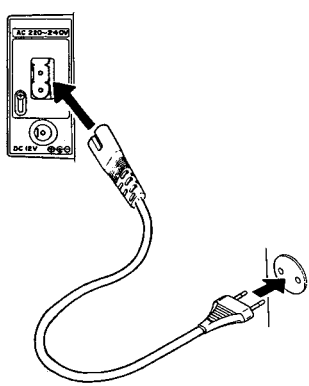


AC 220–240V

AC SUPPLY VOLTAGE SELECTOR

Be sure to check the voltage setting of the voltage selector before connecting AC supply lead plug to the AC outlet. If necessary, adjust the setting as follows:

1. Loosen the securing screw of the supply voltage selector.
2. Slide the panel up or down, until the correct voltage reading is seen on either side.
3. Secure the screw.



CONNECTION TO THE AC OUTLET

Connect the AC supply lead to the unit's AC power supply socket. Next, connect the AC supply lead plug to the AC outlet. Supply is either 110V – 120V or 220V – 240V.

- Inserting the AC supply lead into the unit automatically disconnects the batteries. As a result, the AC supply lead must be removed from the unit in order to operate the unit on battery power.
- An AC power supply should be used whenever possible in order to conserve battery power.

WARNING:

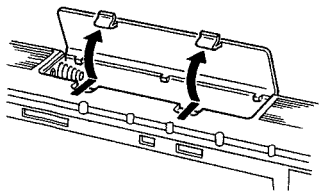
When this unit is not in use, also before attempting any internal examination, pull the mains plug out of the wall socket.

Note:

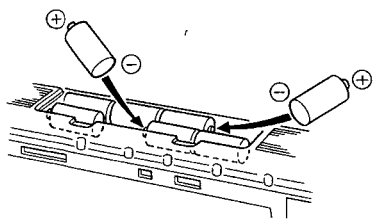
If a humming noise occurs, unplug the AC supply lead plug from the AC outlet and reverse the polarity (i.e., unplug and turn the plug over), and use in the position that gives the least noise.

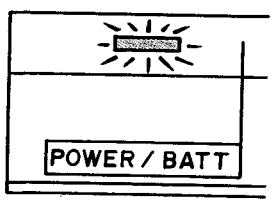
Remove the batteries when using the AC power for a long time.

OPERATION WITH BATTERY



▼ Insert these batteries last by pushing them toward the (–) terminal.





- Disconnect the AC supply lead and car battery adaptor from the unit.
- Set the FUNCTION selector switch to the TAPE/ ⏻ position.

BATTERY INSTALLATION

1 Please lay the unit face down on a soft cloth so as not to damage the unit.

2 Remove the battery compartment cover.

3 Insert eight new batteries (1.5V cell x 8) – UM/SUM-2 or R 14 type – into the compartment.
Battery polarity and location are shown on the back of the unit.

4 Replace the battery compartment cover.

BATTERY LEVEL CHECK

The POWER/BATT indicator shows whether or not the DC power supply is adequate for unit operation.

1 Turn the VOLUME control to the MIN position.

2 Depress the ◀ PLAY key of either Deck 1 or Deck 2.

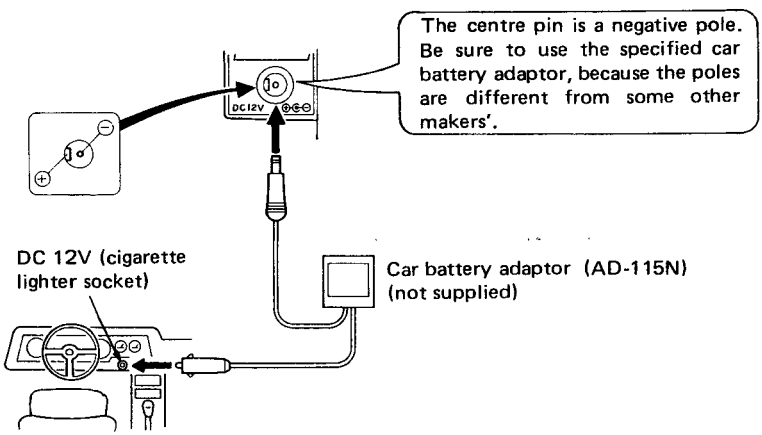
3 Battery level is adequate if the POWER/BATT indicator illuminates. It is inadequate if this indicator is either dim or does not illuminate. In this case new batteries should be installed.

NOTES:

- Remove the batteries when they become weak or when the unit is not in use for extended periods. This will prevent damage to the unit from battery leakage at such times.
- Be sure to keep battery contact parts clean. Dust accumulations between batteries and battery terminals may result in imperfect contacts, and may even prevent the unit from operating.
- When batteries become weak, recording sometimes becomes impossible, even though radio broadcasts may be audibly received. Batteries should be replaced at once.

OPERATION FROM CAR BATTERY POWER

Please use car battery adaptor AD-115N (not supplied), for 12V car battery. Connection of the car battery adaptor to the external DC power terminal and cigarette lighter socket of the car, will cut out the internal batteries.


The centre pin is a negative pole. Be sure to use the specified car battery adaptor, because the poles are different from some other makers'.
DC12V
DC 12V (cigarette lighter socket)
Car battery adaptor (AD-115N) (not supplied)

OPERATION TO BE REMEMBERED

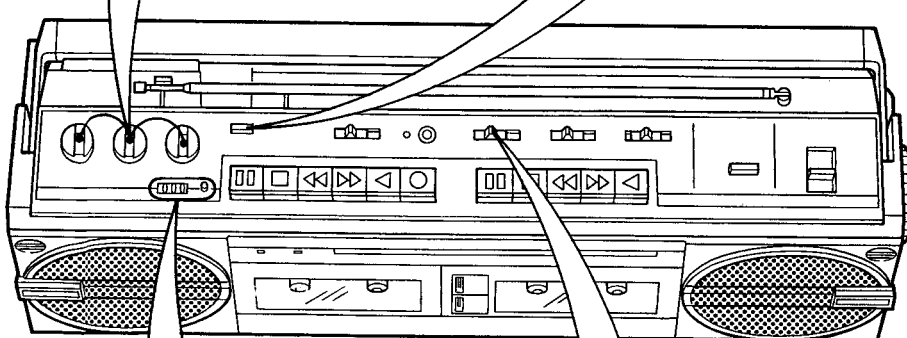
VOLUME CONTROL:
Turn the VOLUME control to adjust sound to the desired level. Turning the knob to the right increases the volume.

BUILT-IN LOUDNESS CIRCUIT:
When listening to the radio or a tape at low volume settings, the built-in loudness circuit is automatically activated to compensate for tone deficiencies.

BALANCE CONTROL:
Controls the balance of right and left speaker volume.

TONE CONTROL:
Turn the TONE control to obtain your desired tone quality.

STEREO WIDE SWITCH
When listening to a tape recorded in stereo or to an FM stereo broadcast, set this switch to the " ▬ ON" position, and you can enjoy a more spreading sound ambience.

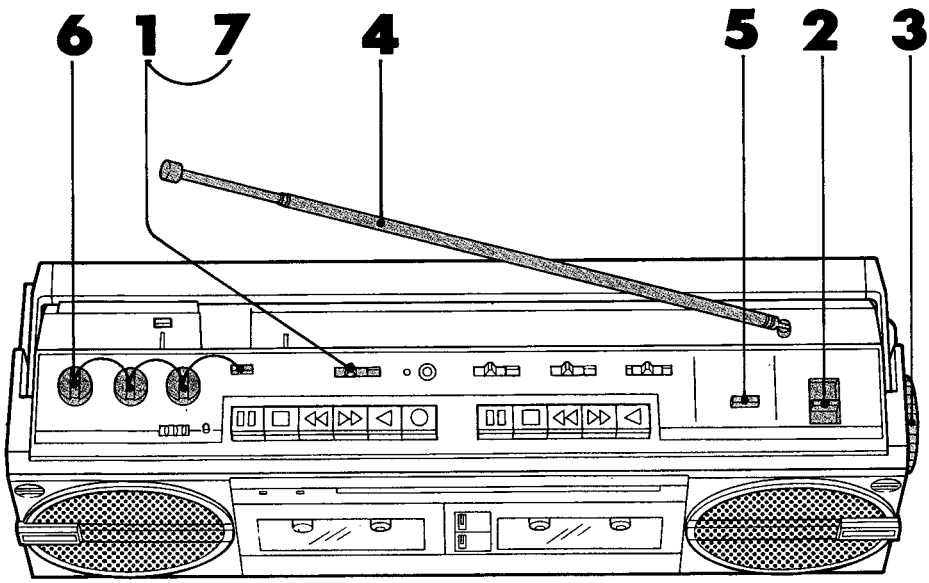


DIGITAL TAPE COUNTER
Press the button at the side of the counter to reset to "000". The counter will advance while recording or playback is in progress. These readings provide a useful reference during recording and playback.
The tape counter functions only with Deck 2.

DUBBING SPEED SELECTOR SWITCH
Normally, set this switch to the OFF position.

- When the switch is set to the HIGH SPEED position, the equalizer circuit for high speed operation is activated, causing the high range to be lowered. At this position, microphone mixing cannot be performed.
- When the switch is set to the NORMAL or HIGH SPEED position, recording with built-in microphone cannot be performed.

RADIO OPERATION



1 Set the FUNCTION selector switch to the RADIO/ON position.
The POWER/BATT indicator will illuminate.

2 Set the appropriate BAND selector (U-FM, L-LW, M-MW or K-SW) to the desired radio broadcasts.

3 Rotate the tuning control in the appropriate direction until the desired broadcast is received.

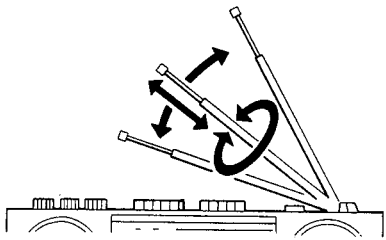
4 Adjust the aerial appropriately to obtain the best reception on the band selected. (See page 9 for more detailed instructions on adjusting the aerial.)

5 With the BAND selector in the FM position, set the FM MODE switch to the " ▮▮STEREO" position. The FM STEREO indicator will illuminate when an FM stereo broadcast is received. Even with the FM MODE switch in " ▮▮ STEREO" position, mono broadcast can be received if the broadcasting station is not transmitting a stereo programme at that time. If stereo reception is unsatisfactory, set the FM MODE switch to the "▮MONO" position.

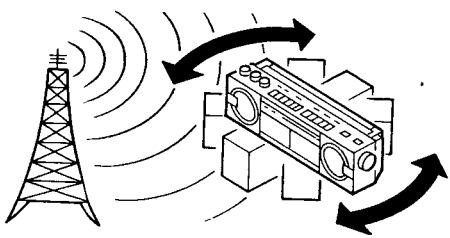
6 Adjust volume and sound quality (refer to instructions on page 7).

7 Set the FUNCTION selector switch to the TAPE/ ⏻ position to terminate radio operation and extinguish the POWER/BATT indicator.

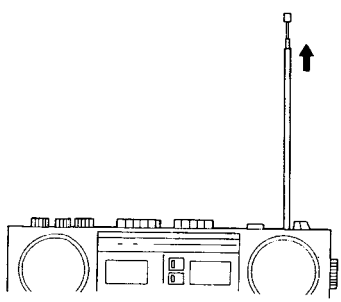
ADJUSTING THE AERIAL



FOR RECEIVING FM BROADCASTS
Raise and extend the telescopic rod aerial. Adjust the position and length of the aerial until FM broadcast reception signal is at peak strength.



FOR RECEIVING MW OR LW BROADCASTS
Rotate or locate the unit to receive peak signal strength of the MW or LW broadcast.



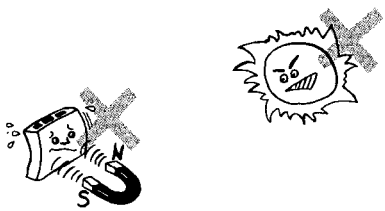
FOR RECEIVING SW BROADCASTS
Raise and extend the telescopic rod aerial vertically to its full length.

CASSETTE TAPES

CASSETTE TAPE SELECTION

- Use only well-known brands of tape.
- Use of C-120 (120 minutes) cassettes is not recommended. The extreme thinness of this tape may result in breakage or other problems.
- A broken tape can easily become entangled in the drive mechanism, causing major damage.
- Stretched tapes will run at uneven speeds and will distort anything recorded on them.

NOTES FOR STORING CASSETTE TAPES

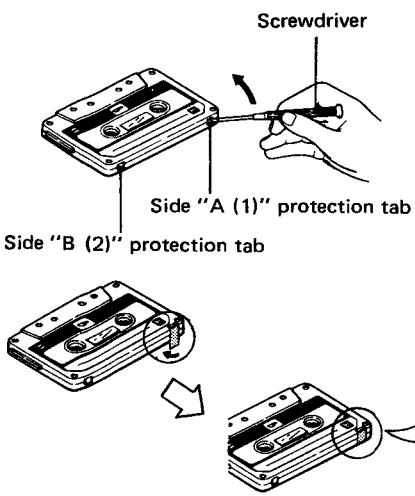


- Do not locate cassettes near objects with a strong magnetic field, such as radios, TV sets or loudspeakers. Magnetic fields may reduce the tape sensitivity or even erase the recording.
- Do not store cassettes for extended periods in hot, moist or dusty location.

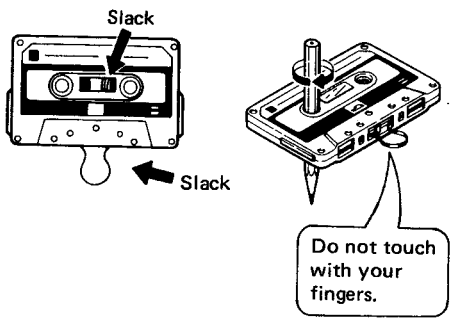
PROTECTING CASSETTE TAPE AGAINST ERASURE

▼Cassette tape with side "A" uppermost.

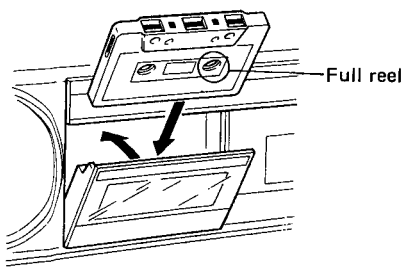
All cassette tapes are provided with tabs which, when in place, allow tape erasure. If the tab (A or B/1 or 2) is removed, the tape on the side in which tab was removed cannot be erased. (The ● RECORD key can not be depressed.)


Screwdriver
Side "A (1)" protection tab
Side "B (2)" protection tab
The tape can be re-recorded or erased by covering the tab holes with tape.

LOADING CASSETTE TAPES



TAPE SLACK
Check to ensure there is tape visible through the cassette centre window. Tighten any loose tape with a pencil or ball-point pen before inserting the cassette into the unit, as shown at left.



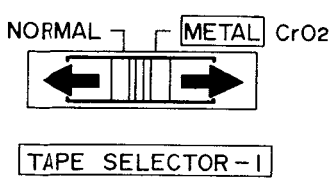
1 Depress the ■ STOP • EJECT key of Deck 1 or Deck 2 respectively.

2 Place the cassette tape into the compartment so that the title of the tape track to be used is facing outwards.

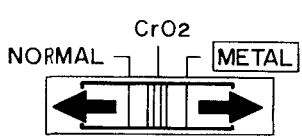
3 Close the compartment door.

UNLOADING
Depress the ■ STOP • EJECT key and remove the tape.

TAPE SELECTOR SWITCHES



TAPE SELECTOR-1



TAPE SELECTOR-2

The unit is furnished with independent TAPE SELECTOR switches for Deck 1 and Deck 2, respectively.
According to the deck to be used, the designated switch should be set to the proper position before beginning playback or recording, in order to match the bias and equalization circuits with the cassette tape being used.

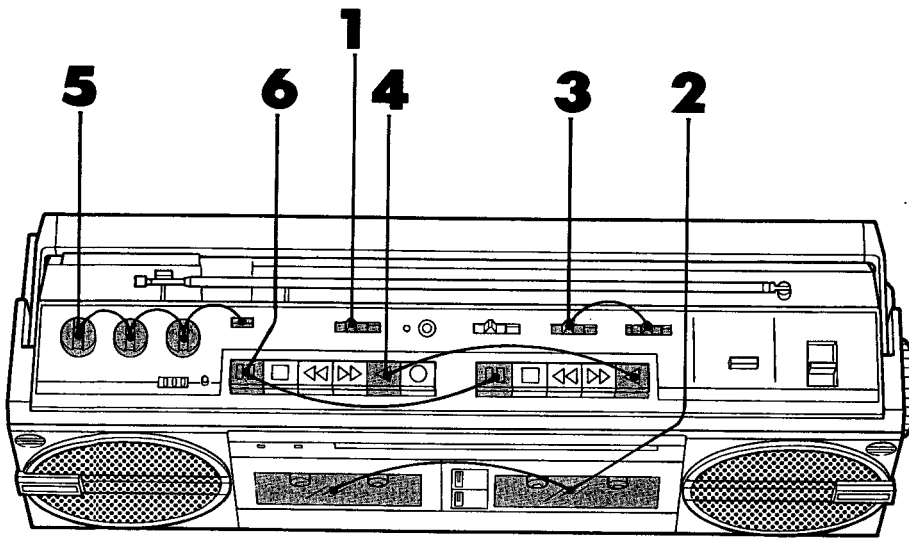
Refer to the instructions of "A LIST OF CASSETTE TAPES" on page 12.

A LIST OF CASSETTE TAPES

Brand	Type of tape	Deck 1: Tape Selector	Deck 2: Tape Selector	
			Playback	Recording
SHARP	S, SD	NORMAL	NORMAL	NORMAL
	CR	METAL/CrO_2	CrO_2	CrO_2
	MX	METAL/CrO_2	METAL	METAL
MAXELL	LN, UD, UD XLI, XLI-S	NORMAL	NORMAL	NORMAL
	UDXLII, XLII-S	METAL/CrO_2	CrO_2	CrO_2
	MX	METAL/CrO_2	METAL	METAL
TDK	D, AD	NORMAL	NORMAL	NORMAL
	SA	METAL/CrO_2	CrO_2	CrO_2
	MA, MA-R	METAL/CrO_2	METAL	METAL
SONY	LNX, HFX, SHF	NORMAL	NORMAL	NORMAL
	CD-α	METAL/CrO_2	CrO_2	CrO_2
	METALLIC	METAL/CrO_2	METAL	METAL
FUJI FILM	FL, FX-I	NORMAL	NORMAL	NORMAL
	FX-II	METAL/CrO_2	CrO_2	CrO_2
	METAL	METAL/CrO_2	METAL	METAL
SCOTCH	MASTER I	NORMAL	NORMAL	NORMAL
	MASTER II	METAL/CrO_2	CrO_2	CrO_2
	METAFINE	METAL/CrO_2	METAL	METAL
MEMOREX	MRX_3 OXIDE	NORMAL	NORMAL	NORMAL
	HIGH BIAS	METAL/CrO_2	CrO_2	CrO_2
AMPEX	GRAND MASTER I	NORMAL	NORMAL	NORMAL
	GRAND MASTER II	METAL/CrO_2	CrO_2	CrO_2
BASF	LH, FSLH I	NORMAL	NORMAL	NORMAL
	CrO_2 SUPPER II	METAL/CrO_2	CrO_2	CrO_2
	METAL IV	METAL/CrO_2	METAL	METAL

CASSETTE PLAYBACK

- With this unit it is possible to perform either individual playback with Deck 1 or Deck 2, or simultaneous playback with Decks 1 and 2.
- Since treble is emphasized on tapes recorded with the Dolby NR system, for playback of such tapes with this unit, lowering treble slightly with the TONE control makes for more accurate reproduction.



1 Set the FUNCTION selector switch to the TAPE/ ⏻ position.

2 Place a pre-recorded cassette into the cassette compartment of Deck 1 and/or Deck 2. (Refer to instructions on page 11.)

3 Set the TAPE SELECTOR switches to the proper positions. Refer to the instructions of "A LIST OF CASSETTE TAPES" on page 12.

4 INDIVIDUAL PLAYBACK
Depress the ◀ PLAY key of Deck 1 or Deck 2 to begin playback.

SIMULTANEOUS PLAYBACK
Depress the ◀PLAY keys of Deck 1 and Deck 2 simultaneously.
The stereo audio reproduction from the cassette tapes on Deck 1 and Deck 2 will be heard mixed respectively from the speaker's output — right channel and left channel.

5 Adjust volume and sound quality (refer to instructions on page 7).

6 Depress the ❚❚ PAUSE key to discontinue playback temporarily. The tape will stop at the point where this key is depressed. The playback will be resumed from this point when the ❚❚ PAUSE key is depressed a second time.

7 To listen to the reverse side of the tape, unload the cassette, reverse it and reload it in the cassette compartment.

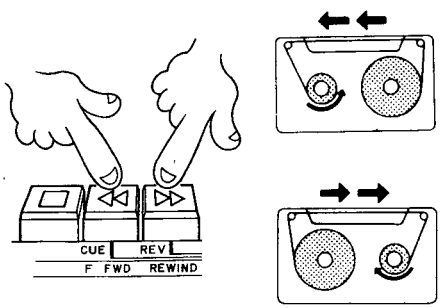
- The unit automatically returns to the neutral mode when the end of tape is reached (Auto stop), and it will turn off.

AFTER USE:
Depress the ■ STOP • EJECT key to return the unit to the neutral mode.

HOW TO STOP TAPE
To stop the tape when the unit is in the recording, playback, fast forward, rewind or APSS mode, depress the ■ STOP • EJECT key.

MODE SELECTION
Before changing from one mode to another while the unit is operating in the recording, playback, fast forward or rewind mode, be sure to first depress the ■ STOP • EJECT key.
For APSS operation, however, it is not needed to depress the ■ STOP • EJECT key in advance: to start it, depress the ◀◀ F FWD or ▶▶ REWIND key when the ◀ PLAY key is being depressed.

CUE AND REVIEW (SKIPPING)



CUE
During playback on Deck 2, depress the ◀◀ F FWD key for fast forward winding of short sections of the tape.
Fast forward will continue as long as the key is depressed and playback will resume from the point at which this key is released.

REVIEW
During playback on Deck 2, depress the ▶▶ REWIND key to rewind short sections of the tape. Rewind will continue as long as this key is depressed, and playback will resume from the point at which this key is released.

APSS (AUTO PROGRAM SEARCH SYSTEM)

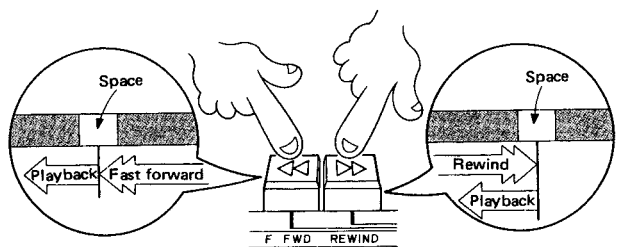
- SHARP's APSS speeds forward or backward to locate the programme you wish to hear, and plays it back to you automatically. APSS is available only on Deck 1.

FORWARD APSS OPERATION

1. If you depress the ◀◀ F FWD key while the tape is playing, the tape will advance to the beginning of the next programme.
2. The tape moves rapidly forward until the unit's scanning sensor locates the space following the programme.
3. Play automatically resumes when the space before the next programme is reached.

REVERSE APSS OPERATION

1. If you depress the ▶▶ REWIND key while a programme is playing, the tape will rewind to the beginning of that programme.
2. The tape reverses rapidly and the unit's scanning sensor searches for the space preceding the programme.
3. Play automatically resumes when the space preceding the programme is reached.



APSS Pause Control
If it is desired to stop the tape at the beginning of the selection, depress the II PAUSE key prior to performing the above operations.

NOTE:
While APSS operation is in progress, the keys will not disengage when the end of the tape is reached. In such cases, depress the ■ STOP · EJECT key.

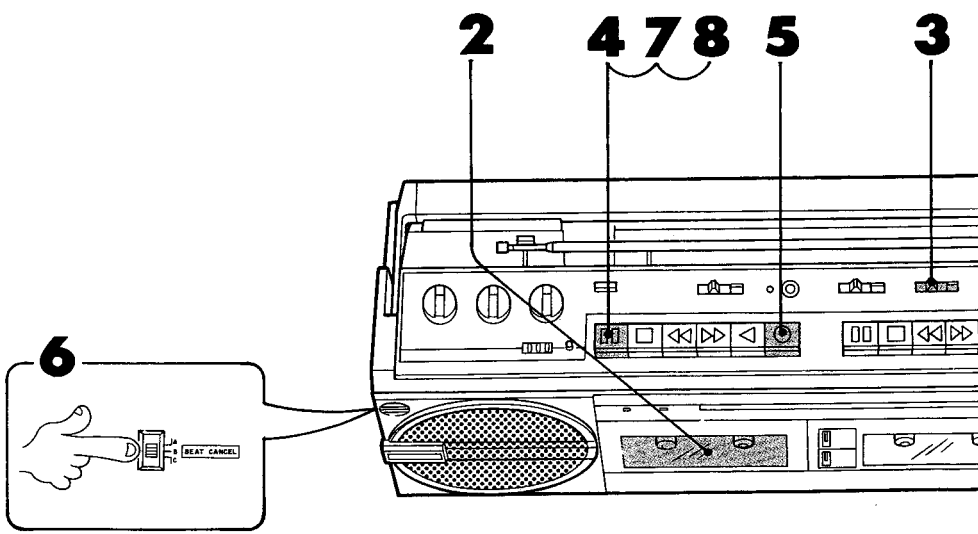
NOTES ON APSS OPERATION

- The APSS may not function perfectly at all times with tape containing the following characteristics:
  a. The recorded signal on the tape is of an intermittent nature (speech, music with silent passages, etc.).
  b. The recorded signal on the tape contains soft classical music, solo performance, modern jazz, etc.
  c. The recorded signal on the tape is of low strength.
  d. The recorded programme items are separated by less than three-second space (during which there occurs no signal).
  e. The recorded programme items are separated by spaces which are not free of noise or stray signals.
- Avoid locating the unit in the vicinity of powerful magnetic fields, such as those generated by TV sets, dynamos or other electrical appliances.
- When the APSS is functioning (searching for a programme item in either forward or reverse), the speakers may emit a slight high-pitched sound. This is not due to any malfunction of the unit, and does not present need for alarm.
- The APSS system does not function during radio reception.
- Do not change directly from the forward APSS (or reverse APSS) to reverse APSS (or forward APSS).
- Do not depress the ◀◀ F FWD or ▶▶ REWIND key of Deck 1 while recording a cassette on Deck 2.

RECORDING

RECORDING FROM THE BUILT-IN RADIO

- Since recording is possible only with Deck 2, the following instructions are relevant to that deck alone.
- When recording important selections, be sure to make a preliminary test to ensure that the desired material is being properly recorded.



1 Tune to the desired station (refer to instructions on page 8).

2 Place a cassette into the Deck 2 cassette compartment (refer to instructions on page 11). Make sure that the protection tabs are intact (refer to page 10).

3 Set the TAPE SELECTOR switch of Deck 2 to proper position. Refer to the instructions of "A LIST OF CASSETTE TAPES" on page 12.

4 Depress the II PAUSE key.

5 Depress the ● RECORD key. This will also engage the ◀ PLAY key.

- The ALC (Automatic Record Level Control) circuit automatically controls the level of input signal strength used for recording.

6 When LW, MW or SW radio reception is hampered by interference, slide the BEAT CANCEL switch on the side of the unit to one of the following positions: A, B or C, by which the interference will be largely reduced.

7 Depress the II PAUSE key a second time to release it and begin recording.

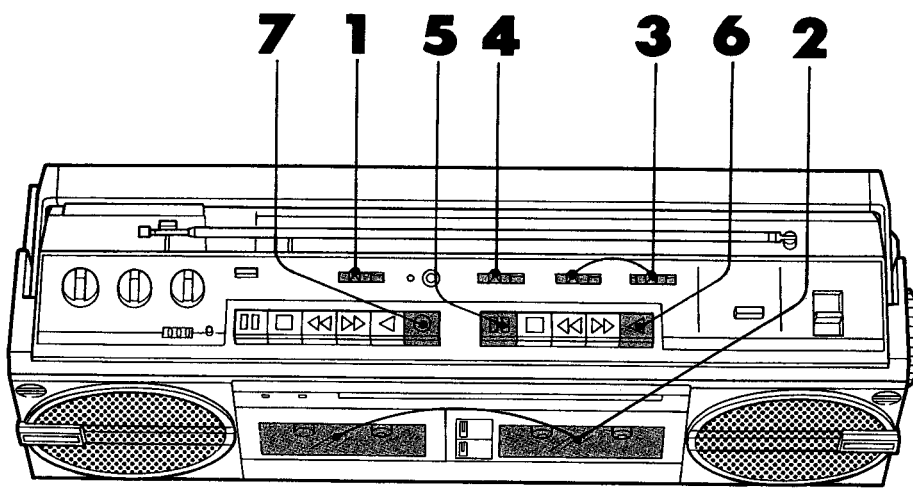
8 Depress the II PAUSE key to temporarily discontinue recording. The tape will stop at this point. To resume recording from the same point, release the II PAUSE key by depressing it a second time.

- The VOLUME and TONE controls may be adjusted with no effect on the recording level input signal.

When the end of tape is reached:
The ● RECORD and ◀ PLAY keys will be released automatically. However, radio reception will continue uninterrupted.

DUBBING FROM DECK 1 TO DECK 2

- The unit's dual deck system permits dubbing operations without the use of another tape deck. Dubbing is performed from Deck 1 onto Deck 2.
- Normal speed dubbing as well as high-speed dubbing may be performed with this unit.
- Do not connect any microphone to the MIX MIC socket during dubbing.
- Do not change the setting of the DUBBING speed selector switch during dubbing.



1 Set the FUNCTION selector switch to the TAPE/ ⏻ position.

2 Place a pre-recorded cassette tape into the cassette compartment of Deck 1, and a cassette tape suitable for recording into the cassette compartment of Deck 2.

3 Set the TAPE SELECTOR switches of Deck 1 and Deck 2 to their respective proper positions. Refer to the instructions of "A LIST OF CASSETTE TAPES" on page 12.

4 Set the DUBBING speed selector switch to either the NORMAL or HIGH SPEED position.
The NORMAL position permits dubbing to be performed at normal speed.
The HIGH SPEED position permits dubbing at twice normal speed.

5 Depress the II PAUSE key of Deck 1.

6 Depress the ◀ PLAY key of Deck 1.

7 Depress the ● RECORD key of Deck 2 and begin dubbing from Deck 1 to Deck 2.

APSS DUBBING

Dubbing may also be performed in cases where it is desired to dub only certain selected material. In such a case the beginnings of the desired selections may be easily found by using the FORWARD APSS or REVERSE APSS function.
Perform APSS dubbing according to the following instructions:

1. Perform steps 1 – 6 of DUBBING FROM DECK 1 TO DECK 2 to prepare the unit for dubbing.
2. Locate the beginning of desired selection by using the APSS (refer to page 15).
3. Depress the ● RECORD key of Deck 2 and begin dubbing from Deck 1 to Deck 2.
4. Upon conclusion of dubbing of the selections, depress the II PAUSE keys on both decks.
5. To perform dubbing of subsequent selections, repeat steps 2 and 4 above.

RECORDING FROM THE BUILT-IN MICROPHONE

- Do not connect any plug to the MIX MIC socket during recording with the built-in microphone.
- Monitoring of recording is not possible.
- Recording from the built-in microphone is not in stereo recording.

1. Set the FUNCTION selector switch to the TAPE/ ⏻ position.
2. Turn the front panel of the unit so that it is facing the sound source and locate the unit for optimal reproduction.
3. Set the DUBBING speed selector switch to the OFF position.
4. Perform steps 2 to 5 and step 7 of "RECORDING FROM THE BUILT-IN RADIO" on page 16.

APSS SPACING

In order for the APSS to operate correctly, there must be a space of at least 4-second duration between each item on the tape. In order to edit space (non-signal space) on tapes, follow the instructions below.

- Ensure that Deck 1 is in the neutral mode.

1. Depress the II PAUSE key on Deck 2 at the end of the recording.
2. Set the FUNCTION selector switch to the TAPE/ ⏻ position.
3. Set the DUBBING speed selector switch to either the NORMAL or HIGH SPEED position.
4. Depress the II PAUSE key on Deck 2 to release the pause function, and run the tape about five seconds.
5. Depress the II PAUSE key on Deck 2.
6. Return the FUNCTION selector switch and DUBBING speed selector switch to their original positions.
7. Depress the II PAUSE key on Deck 2 to release the pause function when you want to start the recording again.

ERASING RECORDED TAPES

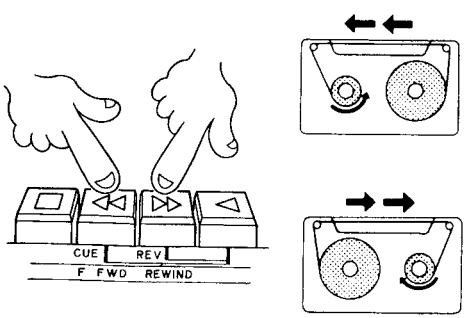
Previously recorded material will be erased automatically whenever new material is re-recorded onto the tape. If it is desired to erase a previously recorded tape without recording over it, follow the instructions below.

- Before starting erasure, check to ensure that Deck 1 is in the neutral mode.

1. Place the tape to be erased into the cassette compartment of Deck 2.
2. Set the FUNCTION selector switch to the TAPE/ ⏻ position.
3. Set the DUBBING speed selector switch to either the NORMAL or HIGH SPEED position.
4. Depress the ● RECORD key. This will automatically engage the ◀ PLAY key and begin erasing the tape.

FAST FORWARD OR REWIND

- Depress the ■ STOP · EJECT key if the recorder is in a mode other than neutral.
- For fast forward winding or rewinding of short sections of the tape, the cue or review function may be used, respectively. Refer to instructions "CUE AND REVIEW (SKIPPING)" on page 14.



FAST FORWARD

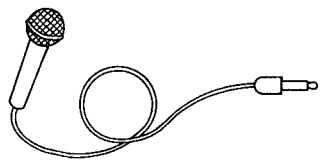
Depress the ◀◀ F FWD key of Deck 1 or Deck 2 for fast forward winding of the tape.

REWIND

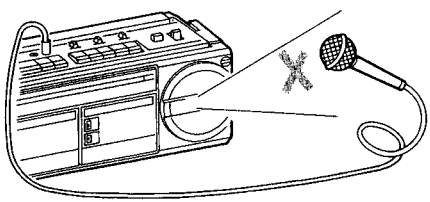
Depress the ▶▶ REWIND key of Deck 1 or Deck 2 to rewind the tape.

- When the end of the tape is reached in the fast forward or rewind mode, the tape will stop, but the motor will continue to rotate. Depress the ■ STOP · EJECT key immediately.

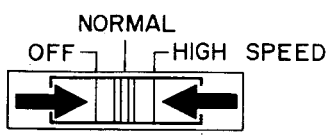
USE WITH EXTERNAL MICROPHONE



- Microphone should have an impedance of 400 ohms to 3k ohms and be equipped with a 3.5 mm diameter plug.
  When using a 6.3mm diameter microphone with a standard plug, use the plug adaptor.
- The microphone sound is monaural.



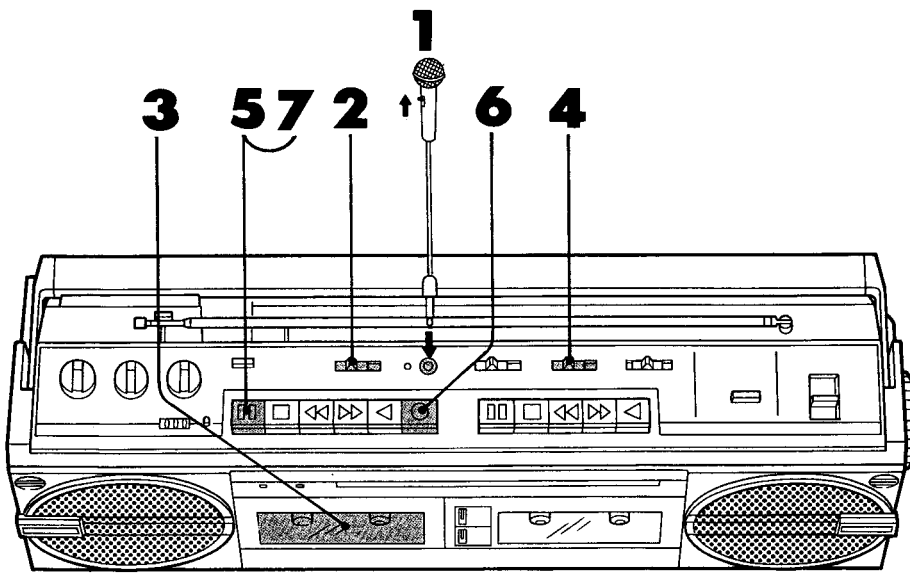
- Howling sounds may occur when increasing the volume too much. In such a case, please decrease the volume or place the microphone as far as possible from the speakers.



DUBBING

- Set the DUBBING speed selector switch to the NORMAL position. When setting the DUBBING speed selector switch to HIGH SPEED position, no sound can be heard from the microphone.

RECORDING FROM AN EXTERNAL MICROPHONE



1 Connect the microphone plug to the MIX MIC socket. Turn the microphone switch to "ON" (if fitted).

2 Set the FUNCTION selector switch to the TAPE/ ⏻ position.

3 Place a cassette into the cassette compartment. Make sure that the protection tabs are intact.

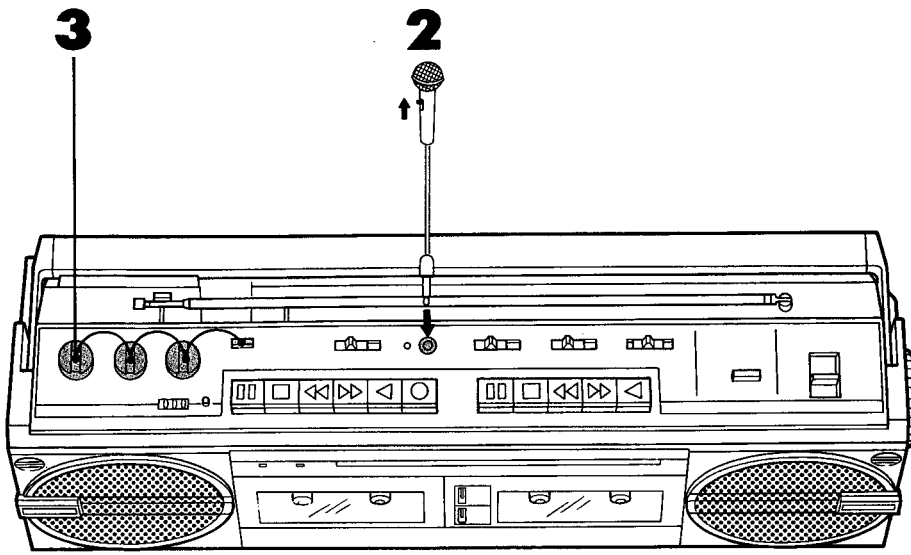
4 Set the TAPE SELECTOR switch of Deck 2 to the proper position. Refer to the instructions of "A LIST OF CASSETTE TAPES" on page 12.

5 Depress the II PAUSE key.

6 Depress the ● RECORD key. This will also engage the ◀ PLAY key.

7 Depress the II PAUSE key a second time to release it and begin recording.

- Avoid feedback by separating an external microphone from speakers or by reducing volume.
- If hawling occurs, the ALC circuit operates and the sound of a microphone becomes small for a while.
- The sound recorded from the external microphone is monaural.



MIXING OF MICROPHONE AND RADIO

1 Receive a broadcast according to the instructions described in "RADIO OPERATION" on page 8.

MIXING OF MICROPHONE AND TAPE

1 Play Deck 1 according to the instructions described in "CASSETTE PLAYBACK" on page 13.

MIXING OF MICROPHONE AND EXTERNAL UNIT

1 When you listen by connecting external units, play external units according to the instructions described on page 23.

2 Insert microphone plug into the MIX MIC socket. Turn the microphone switch to "ON" (if fitted).

3 Adjust volume and sound quality (refer to instructions on page 7).

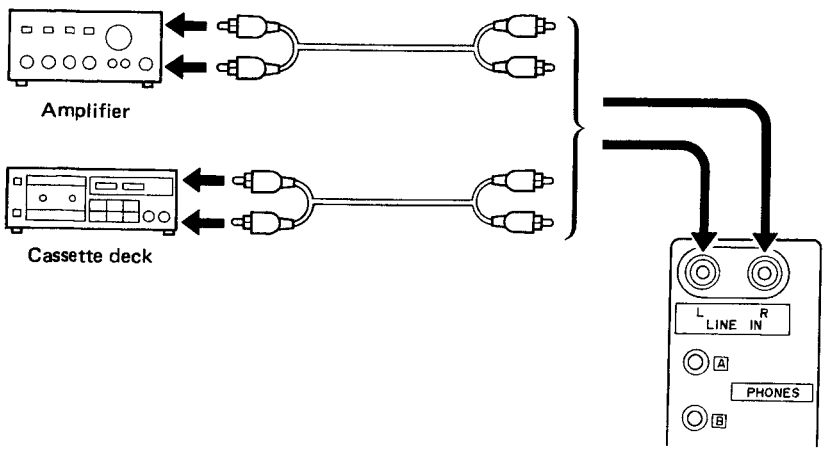
4 Let's sing a song to the accompaniment of the external units; tapes, or radio broadcasts.

TO RECORD

5 Perform steps 3 to 7, of "RECORDING FROM AN EXTERNAL MICROPHONE" on page 21.

USE WITH EXTERNAL UNITS

●When connecting a lead or operating the selector switch, be sure to decrease the volume of the amplifier.



CONNECTING AN EXTERNAL AMPLIFIER

Use a standard lead fitted with RCA type pin plugs to connect the unit to the amplifier. This type of lead permits recording and play via external equipment.

RECORDING FROM AN AMPLIFIER

1 Turn off both the unit and the amplifier.

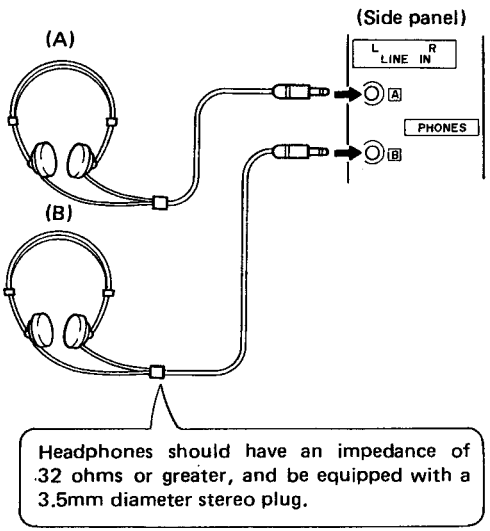
2 Connect the amplifier output sockets (TAPE REC, TAPE OUT, etc.) to the LINE IN sockets (right and left channels) of the unit (with leads that have plugs suitable for fitting into each set of sockets).

3 Set the FUNCTION selector switch to the LINE/ON position.

4 Turn on the power switch of the amplifier.

5 Begin recording (refer to the instructions for "RECORDING FROM THE BUILT-IN RADIO" on page 16.

HEADPHONES

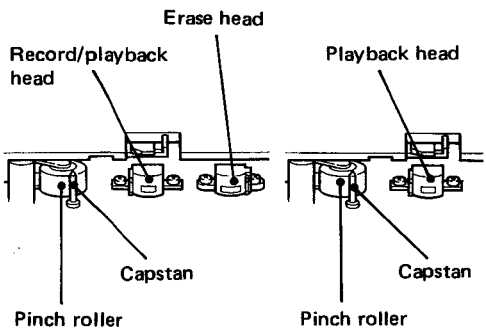


Connect the headphones plug to either of the PHONES sockets of the unit. Speaker output will be automatically discontinued when connected to PHONES socket "A" or both sockets, but not when connected only to socket "B". The volume level can be adjusted with the VOLUME control.

- Two sets of headphones may be connected to the unit.
- When using headphones with a 6.3mm diameter plug, a stereo plug adaptor should be obtained from a high quality audio dealer.

MAINTENANCE

CLEANING THE TAPE HEADS



Clean the heads frequently to remove dust and tape residue. Dirt on the heads will impair the sound quality of both recording and playback.

1 Depress the ■ STOP • EJECT keys of Deck 1 and Deck 2 in order to open the cassette compartment. Remove the cassette tape in the compartment.

2 Depress the ◀ PLAY keys of Deck 1 and Deck 2.

3 Wipe the heads with a soft lint-free cloth or cotton swab that has been partially soaked in alcohol (methylated spirit), until the heads are free of all dirt and residue deposits.

CLEANING MECHANICAL PARTS

Dust or magnetized particles attached to the capstan or pinch roller are the direct cause of uneven tape speed during recording and playback. This is the cause of "wow" and "flutter", namely tape speed variations below and above normal speed, respectively. The capstan or pinch roller should therefore be throughly cleaned with a soft lint-free cloth or cotton swab partially soaked in alcohol (methylated spirit).

DEMAGNETISING THE HEADS

When the head is used for a long time, it is sometimes magnetised to a certain degree. Furthermore, it is also magnetised when magnetised metals, such as screwdrivers, pincettes, etc. are brought near the head. As a result, treble deteriorates, a "za" noise is recorded and noise is introduced into important music tapes.
Sometimes use a head demagnetiser that's sold on the market and demagnetise the head according to the instructions supplied with head demagnetiser.

CLEANING THE CABINET

Use only a damp cloth for cleaning the cabinet.

SPECIFICATIONS

Power source:	AC 110V – 120V and 220V –240V, 50/60Hz DC 12V (UM/SUM-2 or R14 type x 8, or external 12V DC)
Output power: (DIN 45 324)	MPO; 10W (5W + 5W) (AC operation) RMS; 7.6W (3.8W + 3.8W) (DC operation)
Semiconductors:	11 ICs 15 transistors 47 diodes 4 LEDs
Dimensions:	
Width;	474 mm (18-5/8")
Height;	128 mm (15")
Depth;	109 mm (4-5/16")
Weight:	3.4 kg (7.5 lbs.) without batteries

TAPE RECORDER

Tape:	Compact cassette tape
Frequency range:	40Hz – 14,000Hz (normal tape) 40Hz – 15,000Hz (CrO_2 tape) 40Hz – 16,000Hz (metal tape)
Signal/noise ratio:	55 dB (Deck 1, playback) 50 dB (Deck 2, normal tape recording)
Input impedance:	Mixing; 600 ohms Line in; 20 k ohms
Loaded impedance:	Headphones; 32 ohms or greater

RADIO

Frequency range:	FM; 87.6 MHz – 108 MHz SW; 5.95 MHz – 18.0 MHz MW; 520 kHz – 1,620 kHz LW; 150 kHz – 285 kHz

SPEAKER

Speakers:	10 cm (4") woofer x 2 Ceramic type tweeter x 2
Impedance:	4 ohms

SHARP reserves the right to make design and specification changes for product improvement without prior notice.